

***These ISTAR Kindergarten Readiness matrices are based on the 2007 Indiana Academic Standards, and were first presented in 2009. The 2009 ISTAR KR matrices reflect the reliability, alignment, and standardization research completed in 2010. The skills below begin on the left with the least mature skills/indicators and progressively advance to the right to KG and 1<sup>st</sup> grade skills/indicators. Revised September, 2012.***

## **ISTAR-KR Matrix: Mathematics**

### **Office of Special Education Programs (OSEP) Federal Outcome 2**

<b>CCSS: Counting, Cardinality, and Operations Base Ten</b>						
<b>KR: Counting and Quantity</b>						
<b>No Evidence</b>	<b>Demonstrates awareness of the presence of objects</b>	<b>Identifies more</b>	<b>Uses numbers to compare</b>	<b>Names and orders quantities</b>	<b><u>KG Standard</u> Describes relationships between numbers and quantity (to be mastered by end of KG)</b>	<b><u>1<sup>st</sup> Grade Standard</u> (to be mastered by end of 1<sup>st</sup> grade)</b>
	Looks at/observes hanging mobile or object held in front of face	Demonstrates awareness of the presence of objects	Identifies more	Uses numbers to compare	Names and orders quantities	Describes relationships between numbers and quantity
	Follows a moving or sound of an object	Indicates desire for "more"	Uses whole numbers up to 5 to describe objects and experiences	Identifies the next number in a series of numbers	Counts a number of objects up to 20	Counts to 100
	Shows displeasure when a desirable object is removed	Identifies which amount is "more" (e.g. visually, tactilely, or auditorally)	Touches or points to each object in a sequence only once	Identifies "first" and "last"	Recognizes, represents, and names a number of objects up to 10	Recognizes whole numbers to 100
	Shows pleasure when a desirable object is received	Gives more when asked	Identifies when objects are the same number, even if arrangement is changed	Gives "the rest" when asked	Uses concepts of "most" and "least"	Writes numbers up to 100
	Attends to the face of a person when held	Identifies which collection is "more" (e.g. visually, tactilely, or auditorally)	Identifies when a number of objects is "less" (e.g. visually, tactilely, or auditorally)	Uses drawings to represent quantity and numbers	Uses concepts of "all" "none" "some"	Counts and groups objects in ones and tens
				Counts a number of objects up to 10	Orders a number of objects up to 10.	Identifies numbers up to 100 in various combinations of ones and tens
						Names the number that is one more or one less than any number less than 100
						Compares whole numbers to 10 and arranges them in numerical order

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CCSS: Operations and Algebraic Thinking						
KR: Computation						
No Evidence	Manipulates objects for a purpose	Matches objects and sets	Makes a set of objects smaller or larger	Follows models of addition or subtraction situations	KG Standard Describes the application of addition and subtraction situations (to be mastered by end of KG)	1 <sup>st</sup> Grade Standard (to be mastered by end of 1 <sup>st</sup> grade)
	Pulls or breaks apart food	Manipulates objects for a purpose	Matches objects and sets	Makes a set of objects smaller or larger	Follows models of addition or subtraction situations	Describes the application of addition and subtraction situations
	Lines up objects	Puts pairs together	Makes a collection of items larger by adding when asked	Creates a collection equal to objects in a collection already constructed	Finds the number that is one more than any whole number up to 10	Shows the meaning of addition using objects
	Attends to a new object in a group of objects	Matches sets of objects one-to-one	Makes collections of items smaller by taking items away when asked	Describes addition situations for numbers less than 5	Finds the number that is one less than any whole number up to 10	Shows the meaning of subtraction using objects
	Puts an object in mouth to explore	Uses the term "same"	Identifies "one more" "one less"	Describes subtraction situations for numbers less than 5	Compares sets up to 10 objects and determines if they are equal	Demonstrates mastery of addition facts for totals up to 10
			Describes addition and subtractions situations for numbers less than 3	Uses the term "half"	Models addition/subtraction by joining sets of objects (for any two sets with fewer than 10 objects when joined)	Demonstrates mastery of addition facts for totals from 11-20
				Uses the term "whole" when combining a whole quantity of something	Divides sets of 10 or fewer objects into equal groups	Demonstrates mastery of subtraction facts with totals up to 10
					Makes precise calculations and checks validity of results in context of problem	Demonstrates mastery of subtraction facts with totals from 11-20
						Uses symbols "+" and "-"

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						Uses symbol “=”
						Uses zero in addition problems
						Uses zero in subtraction problems
						Writes and solves number sentences from problems involving addition and subtraction

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<b>CCSS: Measurement and Data</b>						
<b>KR: Time</b>						
<b>No Evidence</b>	<b>Anticipates a routine</b>	<b>Uses vocabulary to identify events in a routine</b>	<b>Sequences events</b>	<b>Uses measuring vocabulary for time</b>	<b><u>KG Standard</u> (to be mastered by end of KG) Uses measuring units for time</b>	<b><u>1<sup>st</sup> Grade Standard</u> (to be mastered by end of 1<sup>st</sup> grade)</b>
	Cooperates with routines	Anticipates a routine	Uses vocabulary to identify events in a routine	Sequences events	Uses measuring vocabulary for time	Uses measuring units for time
	Anticipates an event in a sequence during daily activities	Responds to now, next, done.	Independently completes an activity that requires 3 things be done in sequence	Uses concepts of morning, afternoon, night, today, tomorrow	Uses the terms week, month, year	Tells time to the nearest half hour and relates time to events
	Prepares for something anticipated	Responds to "one more..." (time, book)	Tells 3 events in chronological order	Uses concepts of today, yesterday and tomorrow	Uses the terms, minute, hour, day	
	Associates familiar events with concrete objects( e.g. blanket for bedtime)	Uses a word or shows an object that represents bedtime or mealtime	Differentiates past and future events	Explains how something may change over time		
	Follows along with a simple routine		Identifies first and last events			

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<b>CCSS: Measurement and Data</b>						
<b>KR: Location</b>						
<b>No Evidence</b>	<b>Demonstrates an awareness of location of objects</b>	<b>Identifies location</b>	<b>Follows directions involving location</b>	<b>Communicates with location words</b>	<b><u>KG Standard</u> Uses prepositions to describe location (to be mastered by end of KG)</b>	<b><u>1<sup>st</sup> Grade Standard</u> (to be mastered by end of 1<sup>st</sup> grade)</b>
	Tracks movement	Demonstrates an awareness of location of objects	Identifies location	Follows directions involving location	Communicates with location words	Uses prepositions to describe location
	Responds to objects in the environment	Identifies where he/she is currently located	Follows instructions to put an object in a different place (room, space)	Uses "beside" or "next to"	Uses prepositions – inside, outside, between, above, below	Identifies geometric shapes and structures in the environment and specifies location
	Looks or feels for an object or sound that is hidden	Locates a hidden object or sound	Follows instructions to place an object in, out, on or off of something	Answers "where is..." questions	Compares and sorts objects by position	
	Puts things in and out of other things	Responds to "here" and "there"	Follows directions involving 5 body parts	Asks "where is..." questions		
	Identifies one body part	Identifies the location of 3 body parts				

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<b>CCSS: Measurement and Data</b>						
<b>KR: Length, Capacity, Weight, Temperature</b>						
<b>No Evidence</b>	<b>Explores measurement attributes</b>	<b>Distinguishes between big and little, hot and cold</b>	<b>Differentiates gradients of size and weight</b>	<b>Uses common measuring tools in correct context</b>	<b><u>KG Standard</u> Makes direct measurement comparisons (to be mastered by end of KG)</b>	<b><u>1<sup>st</sup> Grade Standard</u> (to be mastered by end of 1<sup>st</sup> grade)</b>
	Pours substances in and out of containers	Explores measurement attributes	Distinguishes between big and little, hot and cold	Differentiates gradients of size and weight	Uses common measuring tools in correct context	Makes direct measurement comparisons
	Responds to hot and cold	Distinguishes between big and little	Orders 3 objects by size	Uses a cup to act out a measurement of capacity	Makes direct comparisons of length	Estimates and measures length to the nearest inch
	Responds to "all done", "want more"	Makes choices based on size	Assembles a set of nesting objects	Uses a ruler to act out a measurement of length or height	Makes direct comparisons of capacity	Measures and estimates length to the nearest centimeter
	Responds to "one more..." (e.g. time, book)	Communicates feelings of hot and cold	Recognizes which object is lighter/heavier	Uses a scale to act out a measurement of weight	Makes direct comparisons of weight	
		Communicates size of things relative to self	Recognizes which object is warmer/cooler	Uses a thermometer to act out a measurement of temperature	Makes direct comparisons of temperature	
		Uses descriptive word or gesture to express amount or size	Recognizes which object can hold more			
			Recognizes which object is shorter, longer or taller			

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<b>CCSS: Geometry</b>						
<b>KR: Sorting and Classifying Objects</b>						
<b>No Evidence</b>	<b>Explores attributes (e.g. shape, size, color)</b>	<b>Matches same attributes</b>	<b>Matches opposites</b>	<b>Sorts and patterns by one attribute</b>	<b><u>KG Standard</u> Sorts and patterns by more than one attribute (to be mastered by end of KG)</b>	<b><u>1<sup>st</sup> Grade Standard</u> (to be mastered by end of 1<sup>st</sup> grade)</b>
	Attends to visual, auditory, tactile patterns	Explores attributes (e.g. shape, size, color)	Matches same attributes	Matches opposites	Sorts and patterns by one attribute	Sorts and patterns by more than one attribute
	Shows interest in something out of place, (e.g. finding a small object on the carpet)	Matches squares, circles	Puts together pairs of pictures of opposites	Names groups of objects according to the common attribute (e.g., blocks, books, clothes)	Groups familiar items by classification and function.	Identifies and describes triangles
	Uses a shape toy to explore basic shapes	Matches rectangles, triangles	Names the opposite of a given quality	Identifies geometric shapes, at least 4 (e.g. circles, triangles, squares, rectangles, cubes)	Gives reasons for sorting of objects	Identifies and describes rectangles
	Puts smaller objects into larger holes, slots or depressions	Identifies when object are the same	Identifies objects that do not belong to a particular group	Puts objects into groups with the similar attribute	Identifies categories of objects in pictures	Identifies and describes squares
		Identifies and matches two colors		Identify and sort common words in basic categories	Sorts and classifies objects by size and shape	Identifies and describes circles
				Copies simple patterns with numbers and shapes	Compare and sort common objects by position, roundness and number of vertices	Compares and sorts objects by shape
				Identifies patterns	Creates patterns of more than one attribute.	Draws or models shapes
				Predicts what comes next when shown a simple AB pattern of objects	Reproduces patterns of sounds and movement	Identifies triangles, rectangles, squares and circles as the faces of three-dimensional objects
				Compares and sorts by roundness		
				Compares and sorts by number of corners		
				Recognizes 5 colors		